SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

M E M O R A N D U M

DATE: May 26, 1983
TO: All Permit Processing Engineers
FROM: Sanford M. Weiss, Director of Engineering /s/ SMW
SUBJECT: Regulation XIII BACT

With the effective date of the revised Regulation XIII behind us, we must now evaluate new applications that come to us for Best Available Control Technology. Regulation XIII provides that all permit units which have increased emissions must have BACT, regardless of size. Best Available Control Technology is essentially defined to be control techniques or equipment which are in use or which the District deems to be appropriate for the equipment under consideration. In my opinion, Regulation XIII provides for an evaluation of cost effectiveness. Without such an evaluation, problems would result which include cost ineffective controls which are many, many times greater in dollars per ton than those authorized by the District Board and control equipment installations which cost many times more than the basic items. In brief then, it is my intention that this Division exercise a modicum of judgment in applying the requirements of Regulation XIII so that the evaluation will result in maximum controls, but within practical bounds. With that preface, the following is a list of the guidelines which I would like you to use in reviewing applications for new and modified equipment with respect to the BACT requirements:

1. General Procedures

   The evaluation process will make use of the BACT candidate list which has been prepared by the Units and has been thoroughly reviewed by the Division's managers. I must emphasize that this list is a candidate list and represents control techniques or equipment which will reduce equipment category pollutants, but which must be evaluated against the requirements to implement those techniques or methods. It is also important to realize that you must consider the impacts of BACT on the product. For example, electrostatic spraying may be specified as BACT but might not work at an auto repair and touch-up facility because of the product unacceptance by the customer. You must also consider any secondary pollutants which might be generated as a result from applying BACT. It might not, for example, be appropriate to apply an afterburner to streams with appreciable concentrations of chlorinated organics. The evaluation process will consist of screening the candidate methods against cost effectiveness in dollars per ton (derived from the short-range techniques in the AQMP as approved by the District Board). In carrying out the evaluation, the equipment will

be amortized over 10 years. As an additional screening criteria, the cost of control equipment will be compared to the cost of the basic equipment to determine whether the control costs are appropriate when compared to the capital cost of the equipment. A BACT candidate must satisfy both of these criteria to constitute BACT. Additionally, the candidate must be suitable (of course) for the contaminant and process. Where several BACT candidates are listed, the screening process must begin with the most effective control technique first, e.g. selective catalytic reduction first, non-selective catalytic reduction second, etc., for NOx. Your managers may authorize equivalent methods or equipment upon your analysis and recommendation.

2. Cost Effectiveness Criteria

The first screening criterion is the dollars per ton of air pollutants controlled. The following dollars cost in dollars per ton are taken from the Board-adopted 1982 AQMP. These values represent the maximum dollars per ton listed in the short-term strategies of that document.

Contaminant	Source	Maximum Cost $/T
Organics	D5	4000
NOx	A8	7600
TSP	D7	4500
SOx	A13	3000

3. Evaluation of Control Versus Basic Costs

An additional screening criterion is a comparison of the cost to reduce air pollution versus the capital costs of the equipment. The purpose of this criterion is to evaluate whether the cost of the control equipment or technique represents an excessive percentage of the initial cost of the basic equipment. The following criteria should be used with respect to this factor:

$ Cost Basic	Cost Control
0-10,000	1.0 (Basic $)
10,000-50,000	10,000+0.5 (Basic $-10,000)
≥50,000	30,000+0.25 (Basic $-50,000)

The column "$ Cost Basic" gives cost of the basic equipment under evaluation. The column "Cost Control" gives the screening value for control cost vs. basic cost.

For example:

The basic equipment costs $30,000. What is the maximum cost for control under BACT?

Allowed control cost = 10,000 +0.5 (30,000 - 10,000) =
10,000 + 10,000 = $20,000

If the candidate BACT gives control costs for this specific case exeeding that calculated above, the candidate BACT would not be required.

4. Criterion for Emissions Over Threshold

When the emissions for equipment are over the emission thresholds given in Regulation XIII, the criteria >$50,000 will not be applicable. Instead, the criterion of 10,000 + 0.5 (Basic-10,000) capital cost will be used.

5. Boilers and Heaters

For boilers and heaters, SCR will be specified for all units larger than 50 million BTU's per hour, provided that the cost effectiveness criterion of paragraph 2 is satisfied.

The BACT list and these criteria have been developed based on our general experience. It is possible that substantial adjustments and interpretations will be required as we proceed with these evaluations. I would appreciate it if you would discuss any problems in implementing these methods with your supervisor who will attempt to solve these problems through discussions with you and your manager. Please begin applying this process to the applications handled by you beginning June 1, 1983.

SMW:aa